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| **Agenda Item:** | **15.3** |
| **Source:** | **Siemens / Italtel** |
| **Title:** | **NBAP : Proposed changes to Node B Resource Status Indication** |
| **Document for:** | **Approval** |

## 1    Introduction

In the last RAN3 meeting the Node B Failure Indication message was renamed to Node B Resource Status Indication and the Operational State and the Service Impact Level was added to the message content. As in our view the discussion was not completely finished, this document proposes following modifications to the message content for the NBAP message **Node B Resource Status Indication**:

- The originally suggested Service Impact Level shall be divided into

  1. Service impact Level with the new meaning
     The  Service Impact Level  shall only indicate if the impact is permanent or temporary. This split into the Service Impact Level and the Availability Status separates the attached meaning into single independent information elements. Therefore it is easier to interpret.

  2. The availability status attribute
     The Availability Status is used to convey more detailed information about the resource availability status. With the availability status it is indicated if e.g. the resource is in test, failed, if the service is degraded,.. so that compared with the Service Impact Level no information is lost. But, in case the service impact level indicates 'permanent', the state change indication has to be made visible at the RNC Manager. The Availability Status is therefore in our view more appropriate as the present defined Service Impact Level since it is compliant with the TMN states defined in ITU T X.731[1].

- It is further assumed, that all resources have a default value after creation so that the Resource Status Indication message is not necessary to be send after Setup of the resource. The Resource Status Indication shall therefore be sent only in case of deviations from the default value or on state changes.

- In addition, the operational state and availability status information has been defined to all resources existing within the Common Transport Channel Setup message or the Cell Setup message.

## 2    Node B Resource Status Indication

This message is sent from the Node B to the CRNC to notify the CRNC of the status of the resources at Node B.

| Information Element | Reference | Type |
|---|---|---|
| Message Discriminator | | M |
| Message Type | | M |
| Indication-Type (FFS) | | O |
| **Resource Impact** | | **O (C$^{18}$)** |
|     **Local Cell ID** | | **O** |
|         Resource Operational State | | M |
|         Service Impact Level | | M |
|         Availability Status | | **M** |
|     **Cell ID** | | **O** |
|         Resource Operational State | | M |
|         Service Impact Level | | M |
|         Availability Status | | **M** |
|     **Communication Control Port ID** | | **O** |

| | | |
|---|---|---|
| Resource Operational State | | M |
| Service Impact Level | | M |
| Availability Status | | M |
| **BCH ID** | | **O** |
| Resource Operational State | | M |
| Service Impact Level | | M |
| Availability Status | | M |
| **PCH ID** | | **O** |
| Resource Operational State | | M |
| Service Impact Level | | M |
| Availability Status | | M |
| **PICH ID** | | **O (FFS)** |
| Resource Operational State | | M |
| Service Impact Level | | M |
| Availability Status | | M |
| **FACH ID** | | **O** |
| Resource Operational State | | M |
| Service Impact Level | | M |
| Availability Status | | M |
| **RACH ID** | | **O** |
| Resource Operational State | | M |
| Service Impact Level | | M |
| Availability Status | | M |
| **AICH ID** | | **O (FFS)** |
| Resource Operational State | | M |
| Service Impact Level | | M |
| Availability Status | | M |
| **DSCH ID** | | **O** |
| Resource Operational State | | M |
| Service Impact Level | | M |
| Availability Status | | M |
| **USCH ID** | | **O** |
| Resource Operational State | | M |
| Service Impact Level | | M |
| Availability Status | | M |
| Cause | | O |
| Transaction ID | | M |

NOTE: The resource objects defined above is an initial list only. The addition or removal of further objects is ffs.

NOTE: It is assumed that all resources have an initial default value. The Resource Operational State is set to "Enabled", the Availability Status is an "Empty Set". This means, that only in case of deviations from the default value, the Resource Status Indication has to be send after Setup of the resource.

C18    The information element is present when the Indication Type reflects service impact.


## 3    Service Impact Level

The service impact level shall indicate the level of impact on the related logical resource of a Node B ~~failure~~.
The following service impact levels shall be defined:

1. ~~Resource disabled permanent – Total loss of resource due to a permanent fault.~~ Permanent service impact
2. ~~Resource disabled temporary – Total loss of resource due to a temporary fault~~ Temporary service impact.
   ~~3.Service degraded permanent – Resource performance degraded due to a permanent fault.~~
   ~~4.Service degraded temporary – Resource performance degraded due to a temporary fault.~~
   ~~5.Capacity reduced permanent – The capacity of the resource is reduced due to a permanent fault.~~
   ~~6.Capacity reduced temporary – The capacity of the resource is reduced due to a temporary fault.~~

~~The definition of other service impact levels is ffs.~~


## 4    Availability Status

The availability status is used to indicate more detailed information of the availability of the resource. In accordance with [1], following values are defined: 'in test', 'failed', 'power off', 'off line', 'off duty', 'dependency', 'degraded', 'not installed', 'log full'. If the value of this attribute is an empty set, this implies that none of the status conditions described in [1] are present. The empty set attribute is used e.g. the resource is enabled again and fully service is provided again.


## 5    Proposal

Following changes to 25.433 (NBAP Specification) are proposed:

1. Replace the content of chapter 9.1.30 in 25.433 with the information in chapter 2.
2. Modify the content of chapter 9.2.1.34 in 25.433 with the information in chapter 3.
3. Insert chapter 4 as section 9.2.1.x of 25.433


## 6    References

[1]   CCITT Recommendation X.731 Information Technology – Open Systems Interconnection – Systems Management: State Management function (01/92)

[2]   TS 25.433 V1.2.0 – NBAP Specification